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## Activity 06 Documentation

```
c:\Users\scarl>docker run --rm -d --name dummy angedidro/ping
7736107424ba84f86da316a505705205d417cb5c18aaa8c92f8e3c0ccaf59d62

c:\Users\scarl>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS   NAMES
7736107424ba   angedidro/ping  "sh -c 'ping $PING_T..."  7 seconds ago  Up 6 seconds                dummy
74a01d89ea6a   ubuntu:16.04    "/bin/bash"              9 hours ago    Exited (0) 9 hours ago      nifty_goldbe
rg

c:\Users\scarl>docker network inspect bridge
[
  {
    "Name": "bridge",
    "Id": "61a2c9cdde28ecfb62e4a8915df52ec99cefd3fe1d1e5e479f73c5ce758e31f0",
    "Created": "2021-06-15T17:30:34.9608569Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": null,
      "Config": [
        {
          "Subnet": "172.17.0.0/16",
          "Gateway": "172.17.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {
      "7736107424ba84f86da316a505705205d417cb5c18aaa8c92f8e3c0ccaf59d62": {
        "Name": "dummy",
        "EndpointID": "d1a38008898881707067d4daaf97669ab274c9c1852a49a39b0aa45ee0296c2c",
        "MacAddress": "02:42:ac:11:00:02",
        "IPv4Address": "172.17.0.2/16",
        "IPv6Address": ""
      }
    }
  }
]
```

```

        "IPv4Address": "172.17.0.2/16",
        "IPv6Address": ""
    },
    "Options": {
        "com.docker.network.bridge.default_bridge": "true",
        "com.docker.network.bridge.enable_icc": "true",
        "com.docker.network.bridge.enable_ip_masquerade": "true",
        "com.docker.network.bridge.host_binding_ipv4": "0.0.0.0",
        "com.docker.network.bridge.name": "docker0",
        "com.docker.network.driver.mtu": "1500"
    },
    "Labels": {}
}
]

c:\Users\scarl>docker run --rm -d -e PING_TARGET=172.17.0.2 --name pinger delner/ping
Unable to find image 'delner/ping:latest' locally
^C
c:\Users\scarl>docker run --rm -d -e PING_TARGET=172.17.0.2 --name pinger angedidro/ping
097977313aa8ea5b1a7b08ebb876c245e9733b021d5345b27042f0cc81152c0c

c:\Users\scarl>docker logs pinger
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.165 ms
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.069 ms
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.077 ms
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.069 ms
64 bytes from 172.17.0.2: icmp_seq=5 ttl=64 time=0.062 ms
64 bytes from 172.17.0.2: icmp_seq=6 ttl=64 time=0.071 ms
64 bytes from 172.17.0.2: icmp_seq=7 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=8 ttl=64 time=0.085 ms
64 bytes from 172.17.0.2: icmp_seq=9 ttl=64 time=0.056 ms
64 bytes from 172.17.0.2: icmp_seq=10 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=11 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=12 ttl=64 time=0.088 ms
64 bytes from 172.17.0.2: icmp_seq=13 ttl=64 time=0.085 ms
64 bytes from 172.17.0.2: icmp_seq=14 ttl=64 time=0.058 ms

c:\Users\scarl>docker run --rm -d -e PING_TARGET=dummy --name pinger angedidro/ping
docker: Error response from daemon: Conflict. The container name "/pinger" is already in use by container "097977313aa8ea5b1a7b08ebb876c245e9733b021d5345b27042f0cc81152c0c". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.

c:\Users\scarl>docker stop dummy
dummy

```

## Adding containers to a network

```
C:\Users\scarl>docker network create skynet
3a38592ce1d839fc57aa138ff3c167514e6a2d1894e211922ad3fa72485a4752
```

```
C:\Users\scarl>docker network ls
NETWORK ID          NAME       DRIVER      SCOPE
61a2c9cdde28       bridge    bridge      local
feb25a44a22c       host      host        local
ccfcc6051040       none      null        local
3a38592ce1d8       skynet    bridge      local
```

```
C:\Users\scarl>docker network inspect skynet
[
  {
    "Name": "skynet",
    "Id": "3a38592ce1d839fc57aa138ff3c167514e6a2d1894e211922ad3fa72485a4752",
    "Created": "2021-06-15T17:50:06.6302827Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": {},
      "Config": [
        {
          "Subnet": "172.18.0.0/16",
          "Gateway": "172.18.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {},
    "Options": {},
    "Labels": {}
  }
]
```

```

C:\Users\scarl>docker run --rm -d --network skynet --name dummy angedidro/ping
031bc55dd60884a68538bb6766a1dcb0d59b5fead7c1b91b95fa03a66da2a60d

C:\Users\scarl>docker run --rm -d --network skynet -e PING_TARGET=dummy --name pinger angedidro/ping
docker: Error response from daemon: Conflict. The container name "/pinger" is already in use by container "097977313aa8e
a5b1a7b08ebb876c245e9733b021d5345b27042f0cc81152c0c". You have to remove (or rename) that container to be able to reuse
that name.
See 'docker run --help'.

C:\Users\scarl>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS              PORTS          NAMES
031bc55dd608   angedidro/ping "sh -c 'ping $PING_T..." 34 seconds ago Up 32 seconds           dummy
097977313aa8   angedidro/ping "sh -c 'ping $PING_T..." 13 minutes ago Up 13 minutes           pinger
74a01d89ea6a   ubuntu:16.04   "/bin/bash"             9 hours ago    Exited (0) 9 hours ago nifty_goldb
erg

C:\Users\scarl>docker rm 09
Error response from daemon: You cannot remove a running container 097977313aa8ea5b1a7b08ebb876c245e9733b021d5345b27042f0
cc81152c0c. Stop the container before attempting removal or force remove

C:\Users\scarl>docker stop pinger
pinger

C:\Users\scarl>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS              PORTS          NAMES
031bc55dd608   angedidro/ping "sh -c 'ping $PING_T..." About a minute ago Up About a minute           dummy
74a01d89ea6a   ubuntu:16.04   "/bin/bash"             9 hours ago    Exited (0) 9 hours ago nifty_g
oldberg

C:\Users\scarl>docker run --rm -d --network skynet -e PING_TARGET=dummy --name pinger angedidro/ping
71297b129b5543c89f48f6da3afc4bf31bd60711d85b6da320a484144926c328

C:\Users\scarl>docker logs pinger
PING dummy (172.18.0.2) 56(84) bytes of data.
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=1 ttl=64 time=0.066 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=2 ttl=64 time=0.072 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=3 ttl=64 time=0.097 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=4 ttl=64 time=0.072 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=5 ttl=64 time=0.089 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=6 ttl=64 time=0.064 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=7 ttl=64 time=0.097 ms

C:\Users\scarl>docker stop pinger
pinger

C:\Users\scarl>docker stop dummy
dummy

```

## Connecting between containers in a network

```

C:\Users\scarl>docker run --rm -d --name widgetdb -e POSTGRES_PASSWORD=password --network skynet -p 5432 postgres
8597e6b21823e32f1062e812377c79ecafd2d3279085f75c25a44919fd91b431

C:\Users\scarl>docker run --rm -d --name gadgetdb -e POSTGRES_PASSWORD=password --network skynet -p 5432 postgres
65dd2db8df2380d839e9c5bca832ea1087966ae230fd4c0bab1e6a5cbbd3ba5d

C:\Users\scarl>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                               NAMES
65dd2db8df23   postgres  "docker-entrypoint.s..." 5 seconds ago  Up 2 seconds  0.0.0.0:63863->5432/tcp            gadgetdb
8597e6b21823   postgres  "docker-entrypoint.s..." 23 seconds ago  Up 21 seconds  0.0.0.0:63850->5432/tcp            widgetdb

C:\Users\scarl>docker exec -it widgetdb /bin/bash
root@8597e6b21823:/# psql -U postgres
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=# \q
root@8597e6b21823:/# psql -U postgres -h gadgetdb
Password for user postgres:
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=# \q
root@8597e6b21823:/# exit
exit

```

## Binding ports to the host

```

C:\Users\scarl>docker stop widgetdb gadgetdb
widgetdb
gadgetdb

C:\Users\scarl>docker run --rm -d --name widgetdb -e POSTGRES_PASSWORD=password --network skynet -p 5432:5432 postgres
bc4ba89950bb0aa1b6aa7855842f622bcf76d0110551dd3841d803820489c43e

C:\Users\scarl>psql -U postgres -h localhost
'psql' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\scarl>docket stop widgetdb
'docket' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\scarl>docker stop widgetdb
widgetdb

```